```
FILE 'STNGUIDE' ENTERED AT 15:19:14 ON 10 SEP 2007

FILE 'REGISTRY' ENTERED AT 15:19:23 ON 10 SEP 2007

FILE 'ZCAPLUS' ENTERED AT 15:19:27 ON 10 SEP 2007
           D STAT QUE L31

FILE 'MARPAT' ENTERED AT 15:19:42 ON 10 SEP 2007
           D STAT QUE L57

FILE 'ZCAPLUS' ENTERED AT 15:20:26 ON 10 SEP 2007
           D IBIB ABS HITIND L31 1-17

FILE 'MARPAT' ENTERED AT 15:20:29 ON 10 SEP 2007
           D IBIB ABS QHIT L57 1

FILE 'REGISTRY' ENTERED AT 15:21:05 ON 10 SEP 2007

FILE 'ZCAPLUS' ENTERED AT 15:21:10 ON 10 SEP 2007
             D STAT QUE L20
L58          5 SEA ABB=ON  PLU=ON  L20 NOT L31

     FILE 'BEILSTEIN' ENTERED AT 15:21:37 ON 10 SEP 2007
             D STAT QUE L54

     FILE 'MARPAT' ENTERED AT 15:21:44 ON 10 SEP 2007
             D STAT QUE L56
L59          3 SEA ABB=ON  PLU=ON  L56 NOT L57

     FILE 'ZCAPLUS, MARPAT' ENTERED AT 15:22:14 ON 10 SEP 2007
L60          6 DUP REM L58 L54 L59 (2 DUPLICATES REMOVED)
                   ANSWERS '1-5' FROM FILE ZCAPLUS
                   ANSWER '6' FROM FILE MARPAT
             D IBIB ABS HITSTR L58 1-5
             D IBIB ABS QHIT L59 1-3

     FILE 'REGISTRY' ENTERED AT 15:24:21 ON 10 SEP 2007

     FILE 'ZCAPLUS' ENTERED AT 15:24:24 ON 10 SEP 2007
             D STAT QUE L48
L61         15 SEA ABB=ON  PLU=ON  L48 NOT L58
L62         15 SEA ABB=ON  PLU=ON  L48 NOT L31
L63         15 SEA ABB=ON  PLU=ON  L48 OR L61 OR L62
             D IBIB ABS HITSTR L63 1-15


     FILE HOME

     FILE REGISTRY
     Property values tagged with IC are from the ZIC/VINITI data file
     provided by InfoChem.

     STRUCTURE FILE UPDATES:    9 SEP 2007  HIGHEST RN 946489-93-6
     DICTIONARY FILE UPDATES:   9 SEP 2007  HIGHEST RN 946489-93-6

     New CAS Information Use Policies, enter HELP USAGETERMS for details.

     TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

       Please note that search-term pricing does apply when
```

conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

FILE ZCAPLUS

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FILE COVERS 1907 - 10 Sep 2007 VOL 147 ISS 12
FILE LAST UPDATED: 9 Sep 2007 (20070909/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE CAOLD
FILE COVERS 1907-1966
FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file supports REG1stRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

FILE BEILSTEIN
FILE LAST UPDATED ON June 25, 2007

FILE COVERS 1771 TO 2007.
FILE CONTAINS 10,004,722 SUBSTANCES

>>>PLEASE NOTE: Reaction Data and substance data are stored in separate documents and can not be searched together in one query. Reaction data for BEILSTEIN compounds may be displayed immediately with the display codes PRE (preparations) and REA (reactions). A substance answer set retrieved after the search for a chemical name, a compounds with available reaction information by combining with PRE/FA, REA/FA or more generally with RX/FA. The BEILSTEIN Registry Number (BRN) is the link

=> file registry
FILE 'REGISTRY' ENTERED AT 15:19:23 ON 10 SEP 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 9 SEP 2007 HIGHEST RN 946489-93-6
DICTIONARY FILE UPDATES: 9 SEP 2007 HIGHEST RN 946489-93-6

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> file zcaplus
FILE 'ZCAPLUS' ENTERED AT 15:19:27 ON 10 SEP 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 10 Sep 2007 VOL 147 ISS 12
FILE LAST UPDATED: 9 Sep 2007 (20070909/ED)

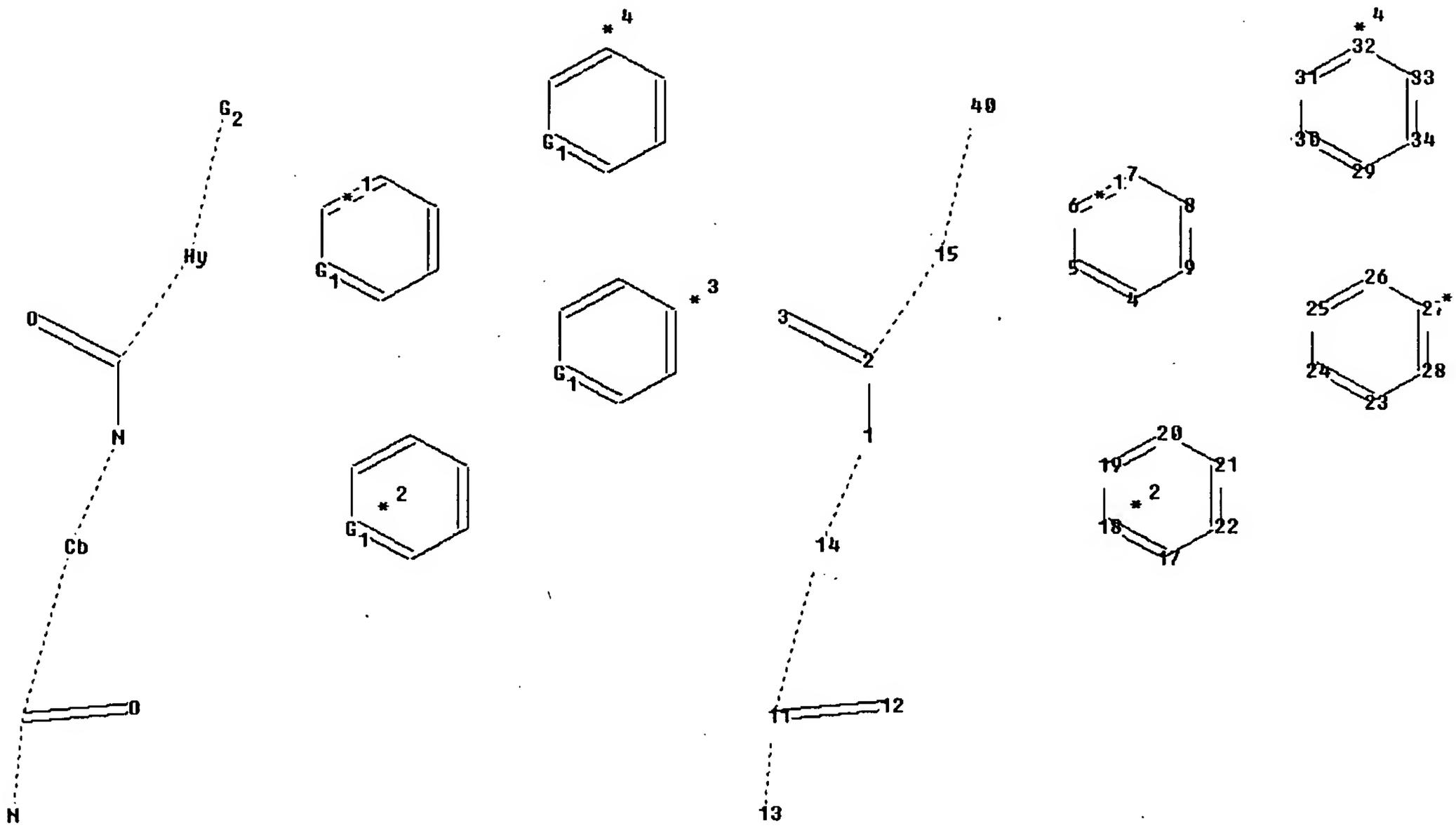
New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate
substance identification.
'OBI' IS DEFAULT SEARCH FIELD FOR 'ZCAPLUS' FILE

=> d stat que L31
L1 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation:
Uploading L1b.str



chain nodes :
1 2 3 11 12 14 15 40
ring nodes :
4 5 6 7 8 9 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
ring/chain nodes :
13
chain bonds :
1-2 1-14 2-3 2-15 11-12 11-13 11-14 15-40
ring bonds :
4-5 4-9 5-6 6-7 7-8 8-9 17-18 17-22 18-19 19-20 20-21 21-22 23-24 23-28 24-25 25-26 26-27 27-28 29-30 29-34 30-31 31-32 32-33 33-34
exact/norm bonds :
1-2 1-14 2-3 2-15 4-5 4-9 5-6 6-7 7-8 8-9 11-12 11-13 11-14 15-40 17-18 17-22 18-19 19-20 20-21 21-22 23-24 23-28 24-25 25-26 26-27 27-28 29-30 29-34 30-31 31-32 32-33 33-34

G1:C,N

G2:[*1],[*2],[*3],[*4]

Match level :
1:CLASS 2:CLASS 3:CLASS 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 11:CLASS 12:CLASS 13:CLASS 14:Atom 15:Atom 17:Atom 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 23:Atom
24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom 31:Atom 32:Atom

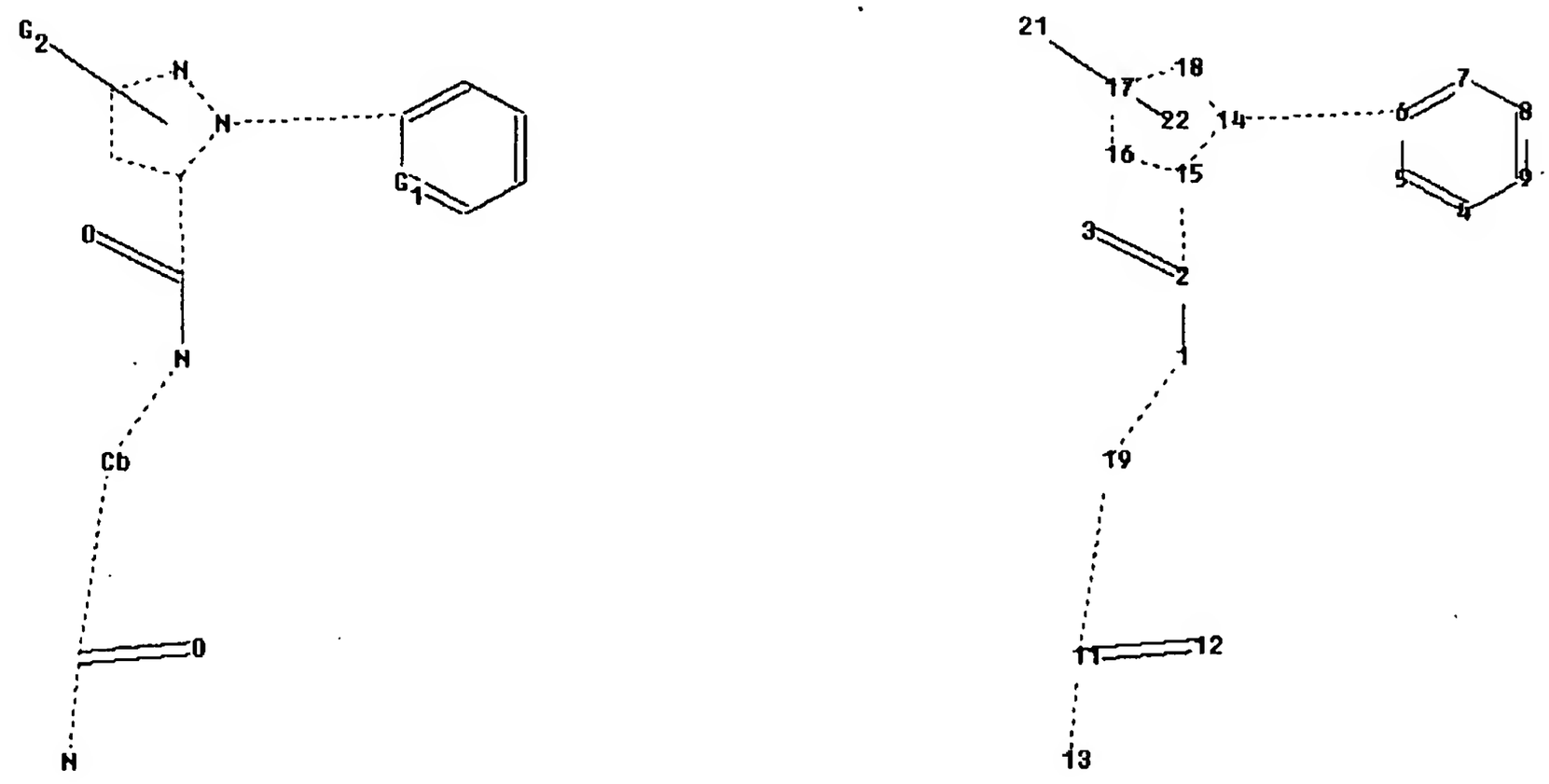
```
33:Atom  34:Atom
40:CLASS
Generic attributes :
14:
Saturation                : Unsaturated
15:
Saturation                : Unsaturated
Number of Hetero Atoms : 2 or more

Element Count :
Node 15: Limited
    N,N2
    C,C3
```

```
L2   (   1051174)SEA FILE=REGISTRY ABB=ON   PLU=ON   N2C3/ESS
L3          2899 SEA FILE=REGISTRY SUB=L2 SSS FUL L1
L4               STR
```

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation:
Uploading L4b.str




```
chain nodes :
1  2  3  11  12  19  21
ring nodes :
```

4 5 6 7 8 9 14 15 16 17 18
ring/chain nodes :
13
chain bonds :
1-2 1-19 2-3 2-15 6-14 11-12 11-13 11-19
ring bonds :
4-5 4-9 5-6 6-7 7-8 8-9 14-15 14-18 15-16 16-17 17-18
exact/norm bonds :
1-2 1-19 2-3 2-15 4-5 4-9 5-6 6-7 6-14 7-8 8-9 11-12 11-13 11-19 14-15
14-18 15-16 16-17 17-18

G1:C,N

G2:Cb,Ak,O,S,N

Match level :
1:CLASS 2:CLASS 3:CLASS 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 11:CLASS 12:CLASS 13:CLASS 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom 21:CLASS 22:CLASS
Generic attributes :
19:
Saturation : Unsaturated

L7 1394 SEA FILE=REGISTRY SUB=L3 SSS FUL L4
L8 64 SEA FILE=ZCAPLUS ABB=ON PLU=ON L7
L21 593 SEA FILE=ZCAPLUS ABB=ON PLU=ON HUGHES K?/AU
L22 179 SEA FILE=ZCAPLUS ABB=ON PLU=ON SELBY T?/AU
L23 72 SEA FILE=ZCAPLUS ABB=ON PLU=ON LAHM G?/AU
L24 3 SEA FILE=ZCAPLUS ABB=ON PLU=ON L21 AND (L22 OR L23)
L25 20 SEA FILE=ZCAPLUS ABB=ON PLU=ON L22 AND L23
L27 16 SEA FILE=ZCAPLUS ABB=ON PLU=ON L8 AND (L21 OR L22 OR L23)
L30 3 SEA FILE=ZCAPLUS ABB=ON PLU=ON L24 AND L25
L31 17 SEA FILE=ZCAPLUS ABB=ON PLU=ON L27 OR L30

=> file marpat
FILE 'MARPAT' ENTERED AT 15:19:42 ON 10 SEP 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE CONTENT: 1961-PRESENT VOL 147 ISS 11 (20070907/ED)

SOME MARPAT RECORDS ARE DERIVED FROM INPI DATA FOR 1961-1987

MOST RECENT CITATIONS FOR PATENTS FROM MAJOR ISSUING AGENCIES
(COVERAGE TO THESE DATES IS NOT COMPLETE):

US 2007173668 26 JUL 2007
DE 102006033242 26 JUL 2007
EP 1810967 25 JUL 2007
JP 2007189148 26 JUL 2007
WO 2007085204 02 AUG 2007
GB 2433499 27 JUN 2007

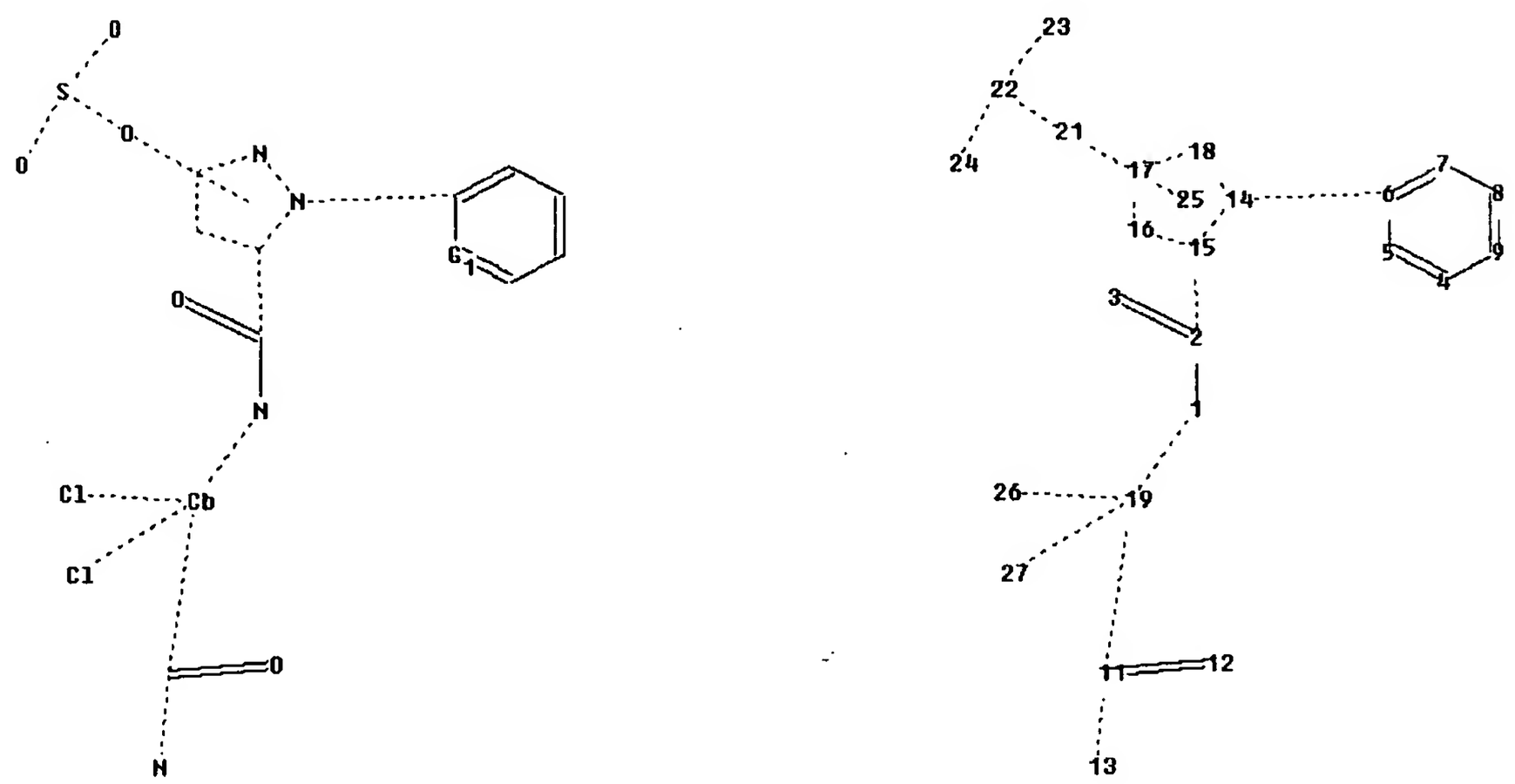
```
FR       2896409 27 JUL 2007
RU       2303603 27 JUL 2007
CA       2571093 16 JUN 2007

Expanded G-group definition display now available.

=> d stat que L57
L21          593 SEA FILE=ZCAPLUS ABB=ON  PLU=ON  HUGHES K?/AU
L22          179 SEA FILE=ZCAPLUS ABB=ON  PLU=ON  SELBY T?/AU
L23           72 SEA FILE=ZCAPLUS ABB=ON  PLU=ON  LAHM G?/AU
L52              STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY -  AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation:
Uploading L52b.str
```




```
chain nodes :
1  2  3  11  12  19  21  22  23  24  26  27
ring nodes :
4  5  6  7  8  9  14  15  16  17  18
ring/chain nodes :
13
chain bonds :
1-2  1-19  2-3  2-15  6-14  11-12  11-13  11-19  19-26  19-27  21-22  22-23  22-24

ring bonds :
4-5  4-9  5-6  6-7  7-8  8-9  14-15  14-18  15-16  16-17  17-18
exact/norm bonds :
1-2  1-19  2-3  2-15  4-5  4-9  5-6  6-7  6-14  7-8  8-9  11-12  11-13  11-19  14-
15
14-18  15-16  16-17  17-18  19-26  19-27  21-22  22-23  22-24
```

G1:C,N

G2:Cb,Ak,O,S,N

Match level :
1:CLASS 2:CLASS 3:CLASS 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 11:CLASS
12:CLASS 13:CLASS 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom 21:CLASS
22:CLASS 23:CLASS
24:CLASS 25:CLASS 26:CLASS 27:CLASS
Generic attributes :
19:
Saturation : Unsaturated

L56 4 SEA FILE=MARPAT SSS FUL L52
L57 1 SEA FILE=MARPAT ABB=ON PLU=ON L56 AND (L21 OR L22 OR L23)

=> d ibib abs hitind L31 1-17; d ibib abs qhit L57 1
YOU HAVE REQUESTED DATA FROM FILE 'ZCAPLUS' - CONTINUE? (Y)/N:y

L31 ANSWER 1 OF 17 ZCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:178017 ZCAPLUS Full-text
DOCUMENT NUMBER: 146:477069
TITLE: The novel mode of action of anthranilic diamide insecticides: ryanodine receptor activation
AUTHOR(S): Cordova, Daniel; Benner, Eric A.; Sacher, Matthew D.; Rauh, James J.; Sopa, Jeffrey S.; *Lahm, George P.*; *Selby, Thomas P.*; Stevenson, Thomas M.; Flexner, Lindsey; Gutteridge, Steven; Rhoades, Daniel F.; Wu, Lihong; Smith, Rejane M.; Tao, Yong
CORPORATE SOURCE: Stine Haskell Research Center, DuPont Crop Protection Products, Newark, DE, 19714, USA
SOURCE: ACS Symposium Series (2007), 948(Synthesis and Chemistry of Agrochemicals VII), 223-234
CODEN: ACSMC8; ISSN: 0097-6156
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Development of insecticides with unique modes of action is necessary to combat resistance. DuPont Crop Protection has discovered a new class of insecticides which provides exceptional control through action on a novel target, the ryanodine receptor. Studies on native and recombinant insect ryanodine receptors demonstrate that the anthranilic diamides bind to a unique site on this receptor, potently releasing calcium from the sarcoendoplasmic reticulum. As this chemical exhibits greater than 500-fold differential selectivity toward insect, over mammalian, receptors, anthranilic diamides offer an exciting alternative to existing pest management strategies.
CC 5-4 (Agrochemical Bioregulators)
IT 362636-31-5 362637-05-6 362637-52-3 *362637-69-2*
362637-85-2 *362638-10-6* *362639-48-3*
362639-62-1 *500008-00-4* 936029-35-5
936029-36-6

```
=>  d his full

     (FILE 'HOME' ENTERED AT 14:40:35 ON 10 SEP 2007

     FILE 'REGISTRY' ENTERED AT 14:40:47 ON 10 SEP 2007
                ACT QAZ612STR1L/A
               ---------
L1                STR
L2   (    1051174)SEA ABB=ON  PLU=ON  N2C3/ESS
L3          2899 SEA SUB=L2 SSS FUL L1
               ---------
L4                STRUCTURE UPLOADED
L5            50 SEA SSS SAM L4
                  D STAT QUE L5
L6            50 SEA SUB=L3 SSS SAM L4
L7          1394 SEA SUB=L3 SSS FUL L4
                  SAVE TEMP L7 QAZ612STR4L/A

     FILE 'ZCAPLUS' ENTERED AT 14:45:18 ON 10 SEP 2007
L8            64 SEA ABB=ON  PLU=ON  L7
                  E US2005-529612   /APPS
L9             1 SEA ABB=ON  PLU=ON  US2005-529612   /AP
                  D SCA
                  SEL RN

     FILE 'REGISTRY' ENTERED AT 14:46:44 ON 10 SEP 2007
L10           58 SEA ABB=ON  PLU=ON  (101463-69-8/BI OR 106-96-7/BI OR 111988-49
                  -9/BI OR 115-29-7/BI OR 119791-41-2/BI OR 120068-37-3/BI OR
                  123312-89-0/BI OR 138261-41-3/BI OR 141-05-9/BI OR 16752-77-5/B
                  I OR 168316-95-8/BI OR 173584-44-6/BI OR 181587-01-9/BI OR
                  210880-92-5/BI OR 22841-92-5/BI OR 23135-22-0/BI OR 2789-92-6/B
                  I OR 33089-61-1/BI OR 500011-88-1/BI OR 500011-95-0/BI OR
                  51630-58-1/BI OR 52315-07-8/BI OR 56-12-2/BI OR 59669-26-0/BI
                  OR 62850-32-2/BI OR 63837-33-2/BI OR 64628-44-0/BI OR 66230-04-
                  4/BI OR 66841-25-6/BI OR 68085-85-8/BI OR 68359-37-5/BI OR
                  697799-46-5/BI OR 697799-47-6/BI OR 697799-48-7/BI OR 697799-49
                  -8/BI OR 697799-50-1/BI OR 697799-51-2/BI OR 697799-52-3/BI OR
                  697799-53-4/BI OR 697799-54-5/BI OR 697799-56-7/BI OR 697799-57
                  -8/BI OR 697799-58-9/BI OR 697799-59-0/BI OR 697799-60-3/BI OR
                  697799-61-4/BI OR 697799-62-5/BI OR 697799-63-6/BI OR 697799-64
                  -7/BI OR 697799-65-8/BI OR 697799-66-9/BI OR 697799-67-0/BI OR
                  697799-68-1/BI OR 697799-69-2/BI OR 71751-41-2/BI OR 73989-17-0
                  /BI OR 75-31-0/BI OR 95737-68-1/BI)
L11           18 SEA ABB=ON  PLU=ON  L10 AND L7
L12           40 SEA ABB=ON  PLU=ON  L10 NOT L11
L13           27 SEA ABB=ON  PLU=ON  L10 AND N2C3/ESS
L14            9 SEA ABB=ON  PLU=ON  L12 AND L13
                  D SCA

     FILE 'ZCAPLUS' ENTERED AT 14:50:09 ON 10 SEP 2007
L15            1 SEA ABB=ON  PLU=ON  L11

     FILE 'REGISTRY' ENTERED AT 14:51:03 ON 10 SEP 2007
L16          242 SEA ABB=ON  PLU=ON  L7 AND S/ELS
L17           24 SEA ABB=ON  PLU=ON  L16 AND O>4
L18           22 SEA ABB=ON  PLU=ON  L17 AND X/ELS
L19           22 SEA ABB=ON  PLU=ON  L17 AND CL/ELS
```

```
     FILE 'ZCAPLUS' ENTERED AT 14:53:30 ON 10 SEP 2007
L20             6 SEA ABB=ON  PLU=ON  L19
L21           593 SEA ABB=ON  PLU=ON  HUGHES K?/AU
L22           179 SEA ABB=ON  PLU=ON  SELBY T?/AU
L23            72 SEA ABB=ON  PLU=ON  LAHM G?/AU
L24             3 SEA ABB=ON  PLU=ON  L21 AND (L22 OR L23)
L25            20 SEA ABB=ON  PLU=ON  L22 AND L23
L26            20 SEA ABB=ON  PLU=ON  (L24 OR L25)
L27            16 SEA ABB=ON  PLU=ON  L8 AND (L21 OR L22 OR L23)
                  D SCA
L28             1 SEA ABB=ON  PLU=ON  L20 AND (L21 OR L22 OR L23)
                  D SCA
                  D SCA
                  D SCA L9

     FILE 'CAOLD' ENTERED AT 14:57:41 ON 10 SEP 2007
L29             0 SEA ABB=ON  PLU=ON  L19

     FILE 'ZCAPLUS' ENTERED AT 14:57:48 ON 10 SEP 2007
L30             3 SEA ABB=ON  PLU=ON  L24 AND L25
L31            17 SEA ABB=ON  PLU=ON  L27 OR L30
L32            14 SEA ABB=ON  PLU=ON  L31 AND P/DT
L33             3 SEA ABB=ON  PLU=ON  L31 AND J/DT
L34             0 SEA ABB=ON  PLU=ON  L33 AND PY<2003
L35             3 SEA ABB=ON  PLU=ON  L32 AND PD<20021115
L36             8 SEA ABB=ON  PLU=ON  L32 AND PRD<20021115
L37             7 SEA ABB=ON  PLU=ON  L32 AND AD<20021115
L38             8 SEA ABB=ON  PLU=ON  (L35 OR L36 OR L37)
                  D SCA
L39             9 SEA ABB=ON  PLU=ON  L31 NOT L38
                  D SCA
L40            48 SEA ABB=ON  PLU=ON  L8 NOT L31
L41            44 SEA ABB=ON  PLU=ON  L40 AND P/DT
L42             4 SEA ABB=ON  PLU=ON  L40 AND J/DT
                  D SCA
L43             9 SEA ABB=ON  PLU=ON  L41 AND PD<20021115
L44            13 SEA ABB=ON  PLU=ON  L41 AND PRD<20021115
L45            12 SEA ABB=ON  PLU=ON  L41 AND AD<20021115
L46            13 SEA ABB=ON  PLU=ON  (L43 OR L44 OR L45)
L47             2 SEA ABB=ON  PLU=ON  L42 AND PY<2003
L48            15 SEA ABB=ON  PLU=ON  (L46 OR L47)
                  D SCA
L49            12 SEA ABB=ON  PLU=ON  L40 AND PY<2003
L50            15 SEA ABB=ON  PLU=ON  L48 OR L49
L51             0 SEA ABB=ON  PLU=ON  L48 AND L20

     FILE 'BEILSTEIN' ENTERED AT 15:15:07 ON 10 SEP 2007
L52               STRUCTURE UPLOADED
L53             0 SEA SSS SAM L52
L54             0 SEA SSS FUL L52

     FILE 'REGISTRY' ENTERED AT 15:16:16 ON 10 SEP 2007
                  D SCA L19
                  D COST

     FILE 'MARPAT' ENTERED AT 15:17:45 ON 10 SEP 2007
L55             0 SEA SSS SAM L52
L56             4 SEA SSS FUL L52
L57             1 SEA ABB=ON  PLU=ON  L56 AND (L21 OR L22 OR L23)
```